

REMARKS

The Anticipation Rejections

The current Office Action rejects claims 1-13, 15, and 17-18 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,075,974 to Saints et al. ("Saints"). As Section 2131 of the MPEP makes clear, a reference anticipates a claimed invention only if the reference discloses the identical invention as claimed. Saints fails to teach the claimed invention, not least because Saints does not teach, suggest, or even hint at the "power headroom" limitations of the rejected claims. Lacking these claimed teachings, Saints fails to anticipate the claims as a matter of law, and must be withdrawn.

In more detail, the anticipation rejections encompass independent claims 1 and 11. The preamble of both claims explicitly directs them to "[a] method of tracking mobile station power headroom at a wireless communication network." And both claims include explicit limitations to receiving power headroom reports from a mobile station, indicating the transmit power headroom at the mobile station. Further, both claims include explicit limitations to updating or otherwise adjusting the reported power headroom value in between reports, based on tracking changes in the mobile station's transmit power based on reverse link power control information.

As a first point of rebutting the anticipation rejections, Applicant makes of record the fundamental point that "transmit power headroom" represents a measure of reserve or remaining transmit power, and cannot properly be construed as being the same as a current transmit power level of a mobile station. See, for example, Fig. 2 of the instant application, which indicates that transmit power headroom can be expressed as the difference between the current (total) transmit power and the maximum possible (or allowable) transmit power. This point seems self evident but Applicant notes that actual rejection arguments given in the Office Action (see Item 4 on Page 2, for example) erroneously intermix and interchange the notion of "transmission signal power" and "power headroom."

Indeed, the entirety of the rejection arguments seems to miss the point that Saints addresses the problem of closed-loop transmission power control between base stations and mobile stations in the presence of delays between the time that power control commands are sent and the time that the results of those commands are manifested in the signal being power-controlled. For example, the Summary of Saints teaches that:

[a] mobile station or receiver properly adjusts its forward link power level thresholds or measurements with which it compares incoming frames or portions of frames to reflect the quality or power level it anticipates receiving (after the aforementioned delay) in response to previously sent power adjustment commands. *For example, the mobile station can recognize that at a given measurement time, two outstanding messages have not been executed by the remote transmitter (where each message indicates a corresponding increase of 1 dB). As a result, the mobile station can adjust its measurement threshold down by 2 dB to more closely correspond to future power adjustments.*

(Emphasis added.)

Saints talks a great deal about the basic and well known closed-loop transmit power control schemes used in wireless communication networks between mobile stations and base stations, and offers specific teachings on how such control schemes may be improved by compensating for control delays. However, Saints does not suggest, teach, or even hint at anything to do with the explicitly claimed limitations of independent claims 1 and 11.

Not only did Applicant carefully read the disclosure of Saints, Applicant performed comprehensive word searching on the electronic copy of Saints as maintained in the Patent Office database. There is not a single instance of Saints mentioning the word “headroom,” nor any reasonably similar term that would be used to connote the concept of headroom.

Indeed, all of the sections of Saints specifically cited by the examiner in the rejection of claims 1 and 11 are devoid of any mention of power headroom, and even a cursory reading of the cited sections makes clear that Saints offers no teachings relevant to the allegedly anticipated claims. Again, however, it appears that the rejection arguments utterly fail to distinguish between the concept of “power headroom” versus “transmission power level” (e.g., the current transmit power of a mobile station).

For example, in rejecting claim 2, which explicitly claims receiving periodic power headroom reports (at the base station) from a mobile station, the examiner cites to Saints, col. 2, lines 30-41, and col. 3, lines 34-41. Those cited sections discuss mobile stations sending error or quality reports to base stations, where such reports indicate the “*the quality or power level of each frame or portions of the frame received in the forward link channel.*” Obviously, those teachings relate received signal quality or power, and have nothing to do with power headroom reporting.

With the above points in mind, Applicant respectfully submits that the Patent Office has failed to establish any legally sustainable basis for rejecting claims 1-13, 15, and 17-18 as anticipated by Saints, and all such rejections should be immediately withdrawn. Saints neither teaches nor suggests tracking power headroom for a mobile station as claimed, and the Patent Office will be unable to sustain assertions that it does in future proceedings involving this case.

The Obviousness Rejections

The current Office Action rejects claims 14, 16, and 19-32 under 35 U.S.C. § 103(a) as being unpatentable over Saints in view of EP 1 204 225 A1 to Miyoshi et al. (“Miyoshi”). Carrying the burden of establishing a *prima facie* case for obviousness requires, among other things, that “the prior art reference (or references when combined) must teach or suggest all the claim limitations.” MPEP, § 2143.

Saints fails to teach or suggest the power headroom limitations of the independent claims from which these rejected claims depend, nor does Miyoshi provide such teachings. (Miyoshi appears to be cited only for its teachings regarding a “power margin information detector 117” whose operation and purpose is irrelevant to Saints, and to Applicant’s claimed invention.) Therefore, the case for obviousness fails as the argued-for combination fails to teach or suggest all of the claim limitations at issue.

As a further point against the obviousness rejection, it seems that the Patent Office does not recognize the distinct differences between Miyoshi and Saints. For example, Miyoshi specifically addresses problems in “adaptive modulation communication,” which may or may not be an industry-standard term for best-efforts, time-multiplexed transmissions on high-rate channels. (The IS-856 High Data Rate standard discusses such channels, and similar information can be found regarding their use in CDMA2000 (shared packet data channels) and Wideband CDMA (WCDMA), where HSDPA services make use of such channels.

In any case, these channels typically are broadcast at maximum power and the data rate is adapted as a function of reception quality. Miyoshi explains this control approach in the context of the data rate control signaling (“DRC”) used to set adaptive modulation communication data rates. In column 11, Miyoshi explains that its invention is directed to using something other than full power for such transmissions, as a means for reducing system interference. See, e.g., lines 1-16 at col. 11. Miyoshi’s disclosed power margin information detector 117 is used in this context.

However, whether one uses the max transmit power approach for high-rate channels, where data rate rather than power level adjustments are made, or one uses the modified approach taught by Miyoshi, such power “control” is antithetical (opposite) to the dedicated closed loop power control scheme between individual base stations and specific mobile stations, which is the subject of Saints’ invention. Put simply, the teachings “pulled” from

Miyoshi for combination with Saints are not combinable at all, and certainly not in the manner so blithely suggested by the Patent Office.

The fundamental incompatibility between the power control subject matter of Miyoshi and that of Saints makes the insufficiency of the proffered motivation to combine self evident. For this further reason, the 103 rejections fail.

Closing

In view of the above arguments, Applicant submits that all pending claims stand in condition for immediate allowance over Saints and Miyoshi, whether taken individually or in combination. Further, the undersigned attorney would welcome a telephone discussion with the examiner, if the examiner believes that such a discussion would be helpful in advancing this case on the merits.

Respectfully submitted,

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